The dynamics of housing affordability

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Shelter is the biggest expenditure most households make and its affordability can have an impact on wellbeing. For this reason, housing affordability is closely watched by a wide range of stakeholders—from housing advocates to policy analysts—interested in housing and the broader welfare of Canadians.

Measuring affordability involves comparing housing costs to a household's ability to meet them. One common measure is the shelter cost-to-income ratio (STIR). The 30% level is commonly accepted as the upper limit for affordable housing. Those who spend 30% or more have been, and continue to be, the subject of intense study—do they do so out of choice, having the means and preference to spend more than the norm; or out of necessity, having low income and possibly being in housing need.

Housing affordability is also a critical input to Canada Mortgage and Housing Corporation's (CMHC) core housing need indicator.[1] The core housing need indicator "identifies those households unable to obtain market housing that is in adequate condition, of suitable size and, at the same time, affordable" (CMHC 1991). The information is used by governments to help design, deliver, fund and evaluate social housing programs.

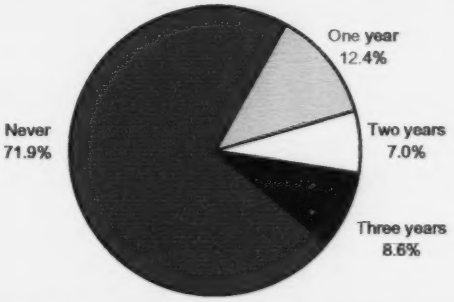
Up to now, STIRs have described affordability at a particular point in time. No source followed households over time, collecting both incomes and shelter costs. While Statistics Canada's Survey of Labour and Income Dynamics (SLID) provides household income over a six-year period, it does not normally collect data on shelter costs. So, for the last five years, CMHC has sponsored a module of housing questions and now this information enables a first-ever longitudinal review of housing affordability (see *Data sources and definitions*).

This report, co-authored by CMHC and Statistics Canada, focuses purely on the dynamics of housing affordability, not on core housing need. It examines the likelihood of spending 30% or more of household income on shelter, how often this occurs, whether it is occasional or persistent, and contrasts those spending 30% or more to those spending less.

Housing affordability profile

Cross-sectional estimates indicate that around one-fifth of Canadians lived in households spending more than the affordability benchmark in any one year between 2002 and 2004. Longitudinally, however, less than one-tenth lived in households that persistently spent above the benchmark between 2002 and 2004. Another one-

Chart A Less than 10% of people lived in households persistently exceeding the affordability benchmark



Source: Statistics Canada, Survey of Labour and Income Dynamics, 2002 to 2004.

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Data sources and definitions

The **Survey of Labour and Income Dynamics** (SLID) is a household survey that uses computer-aided telephone interviews to collect information on income, labour, education and, since 2002, housing. Between January and March, interviewers collect information from the previous calendar year regarding labour experiences and income, educational activity, and family relationships. Demographic characteristics of family and household members, and information about their dwellings and shelter costs represent a snapshot as of the end of each calendar year. The response rate averaged 77% during the three-year study period covered in this report. SLID covers all individuals in Canada, excluding residents of the three territories, residents of institutions and persons living on Indian reserves or in military barracks, and those who are homeless. Overall, these exclusions amount to less than three percent of the population.

SLID samples are selected from the monthly Labour Force Survey (LFS) and thus share the latter's sample design—an area frame and a stratified, multi-stage design that uses probability sampling. The total LFS sample is composed of six rotation groups, with one-sixth of the sample being replaced each month. The SLID sample comprises two panels, each consisting of two LFS rotation groups—roughly 17,000 households. A panel is surveyed for six consecutive years. A new panel is introduced every three years, so two panels always overlap.

SLID provides both cross-sectional and longitudinal estimates. The longitudinal estimates in this report are based on two panels covering the years 2002 to 2004—the last three years of panel 3 and the first three years of panel 4.

Shelter cost-to-income ratio
Owner shelter costs include mortgage payments, property taxes, condominium fees, and utility payments[2] (heating, water and electricity). Renter shelter costs consist of rent payments plus any utilities not included in the rent. Total annual household shelter costs are compared with total annual before-tax household income, which includes transfers from government. Income is collected for each person 16 years of age and over and then aggregated into household income. Approximately 85% of SLID respondents allow the use of their tax data as an alternative to answering the survey questions, improving data quality and reducing response burden.

Households spending less than 30% of their incomes on shelter are classified as meeting the affordability standard. However, those spending 30% or more are not necessarily experiencing housing affordability problems. Many who spend a higher percentage do so by choice.

CMHC's 'core housing need' classifies only those who could not afford suitable and adequate housing in their locality as being in housing need. Based on this indicator, 20% of *households* in the 2001 Census spent more than the housing affordability standard, but only 12% were in core housing need.

The study universe
For longitudinal analysis, it is necessary to work at the person level rather than the household level since the household universe is dynamic. Households form, change, and dissolve due to birth, marriage, divorce, death, and the comings and goings of members, making it difficult to follow households over time. Therefore, household characteristics (including shelter costs, incomes, and STIRs) are attached to each household member.

Results present the numbers and percentages of people living in households with the various characteristics. To facilitate comparisons between longitudinal and cross-sectional estimates, most of the cross-sectional analysis was also done at the person level.

Certain exclusions from the population were necessary. The first step, for longitudinal analysis, was to eliminate persons not present for all three years.

To simplify interpretation, people in the following households were also excluded: those with household incomes or shelter costs less than or equal to zero, those where a household member operates a farm, and those with more than one economic family (i.e. at least one person in the dwelling was not related by blood, marriage or adoption). This removed approximately 8% of the sample from cross-sectional analysis with the largest exclusion coming from the third criterion.

Positive incomes and shelter costs are essential to interpret the STIR. Households can report negative incomes when, for instance, income from self-employment or investment includes losses that are larger than gains. Such households usually depend on alternative monetary sources such as loans, savings or capital gains. But these data are not collected in SLID, so it is not possible to assess how much money the household has to live on. Similarly, it is difficult to interpret the STIR if a household reports that it pays nothing for shelter when, for example, the use of a dwelling comes as part of employment compensation.

Farm operators are excluded because their shelter costs and farm operating costs may be so blended together that it is hard to obtain a reliable estimate of the actual shelter cost.

The exclusion of households with more than one economic family was done because the members of some of these households may make their housing decisions at the family or individual level and any household level estimate might be difficult to interpret. (A household consists of all the people living in a dwelling, whereas an economic family consists only of those who are related by blood, marriage or adoption living together in a dwelling.) In a roommate household, each of the roommates would have different incomes, although each might share the rent equally. A STIR calculated based on their total shelter costs and the sum of their incomes would not have the same meaning as a STIR calculated for a family or an individual living alone.

Finally, the models were run only on the adult population (16 years of age and over), because certain questions (for example, about Aboriginal status, immigration status and education level) are not asked of those under age 16.

Sample distribution for the models
The first model compared the characteristics of those who ever (at least one year between 2002 and 2004) spent 30% or more of household income on shelter with those who never did so.

The second model focused on the population persistently spending 30% or more of household income on shelter, in this case for the full 3-year study period. The sample was divided into *persistently* and *never + occasionally.*

Model 1 regresses the *ever* indicator and Model 2 regresses the *persistently* indicator against the socio-demographic and geographic characteristics of Canadians and the households in which they live. Income was not included in the models because it is part of the calculation of the characteristic of interest—STIR.

fifth lived in households occasionally (one or two years) spending above the benchmark. In total, about 28% lived in households that *ever* exceeded the affordability benchmark during the study period (Chart A).

Lower-income households more likely to exceed housing affordability benchmark

Household income is a key determinant of STIR. On average, income-constrained households have higher shelter cost burdens and are more likely to surpass the affordability benchmark. In fact, in 2004 over 80% of people in households exceeding the benchmark fell into the bottom 40% of the income distribution (Table 1). In contrast, those with incomes in the top 40% accounted for only about 7% of people exceeding the affordability benchmark—likely spending more out of choice, not necessity.

Nearly 58% of people in the lowest income group lived in households spending more than the affordability benchmark. Their median STIR, around 50%, tends to be a consequence not only of their low income but also of their relatively high shelter costs.[3] For owners it may be because of high mortgage payments—once mortgages are paid off, STIRs naturally drop considerably. Tenants may find that, unless they are in subsidized housing, accommodation cannot be obtained below a certain rent. In addition, families in this situation may live in cities with more expensive housing, need a bigger dwelling to accommodate a larger family, or lack the social or financial resources to seek less expensive accommodation.

The most obvious reason for low household income is a low-paying job, but other causes are also possible: only one earner, family breakup, job loss, and business or investment losses (especially for the self-employed). Some households with low income may have other revenue sources—capital gains, savings, loans, gifts or even charitable support.

In addition, some of these high STIRs are only transitory. Finding a job, getting married or moving are examples of events that could lower the STIR. Longitudinal data enable the identification of households making these transitions and tracking movements above and below the benchmark. Instead of considering households above or below the affordability benchmark at a given point in time, it is possible to see whether they are above or below the benchmark for one, two or three years (Table 2).

Like cross-sectional estimates, the longitudinal numbers show that as household income increases, a lower proportion of people live in households that ever spend above the affordability benchmark. However, these estimates are higher than annual estimates. As would be expected, over a longer period of time, more people live in households spending above the affordability benchmark.

In addition, the higher the income, the greater the percentage difference between the longitudinal and cross-sectional estimates. As household income increases, the turnover or change in those living in

Table 1 Cross-sectional estimates of people living in households spending above and below the affordability benchmark by income quintile, 2004

	Share within income quintile	Cumulative share spending 30% or more	Shelter cost	Household income	STIR
	%	%	$	$	%
Bottom 20%					
30% or more	57.9	57.4	9,000	17,417	51.0
Less than 30%	42.1	...	4,416	24,742	20.1
Second quintile					
30% or more	23.5	80.6	15,983	39,887	39.3
Less than 30%	76.5	...	6,720	41,625	16.5
Middle quintile					
30% or more	12.7	93.2	23,233	62,323	36.0
Less than 30%	87.3	...	9,426	62,949	15.0
Fourth quintile					
30% or more	5.2	98.3	31,258	87,196	34.6
Less than 30%	94.8	...	12,104	88,671	13.7
Top 20%					
30% or more	1.7	100	44,570	124,383	35.2
Less than 30%	98.3	...	13,823	135,885	9.6

Note: Household income not adjusted for family composition and size.
Source: Statistics Canada, Survey of Labour and Income Dynamics.

households spending 30% or more on shelter also increases. People with higher incomes do not tend to spend above the benchmark repeatedly or persistently. Instead, new people are entering as others are leaving the group from one year to the next, which leads to the higher longitudinal estimates.

Another way of looking at this is through the share of those persistently (all three years) exceeding the affordability benchmark compared with those ever exceeding it (at least one year). In the lowest income group, almost half of those ever exceeding the benchmark did so for all three years. In contrast, only 7% of those with the highest incomes did so. Thus, the higher the income, the larger the proportion of people moving back and forth across the affordability benchmark, indicating that the causes of exceeding the benchmark may often be temporary. But in the lower income groups, especially the lowest, a much higher proportion have STIRs persistently exceeding the benchmark, indicating less ability to adjust incomes or shelter costs.

Table 2 Longitudinal estimates of people living in households spending above and below the affordability benchmark by income quintile, 2002 to 2004

	Share within quintile income	Shelter cost	Household income	STIR
	%	$	$	%
Bottom 20%				
Less than 30% all 3 years	37.3	4,216	27,341	17.9
30% or more 1 or 2 years	32.4	7,195	24,113	32.2
30% or more all 3 years	30.2	9,920	19,109	52.7
Second quintile				
Less than 30% all 3 years	62.8	6,413	44,756	14.9
30% or more 1 or 2 years	29.5	12,205	43,652	30.2
30% or more all 3 years	7.8	18,491	42,166	43.2
Middle quintile				
Less than 30% all 3 years	77.5	9,118	64,239	14.5
30% or more 1 or 2 years	18.9	16,375	62,604	28.0
30% or more all 3 years	3.7	24,907	63,138	39.1
Fourth quintile				
Less than 30% all 3 years	86.2	11,663	88,763	13.6
30% or more 1 or 2 years	12.7	21,184	84,724	26.7
30% or more all 3 years	1.1	33,136	86,870	35.6
Top 20%				
Less than 30% all 3 years	95.8	13,861	131,817	10.3
30% or more 1 or 2 years	3.9	29,552	126,971	26.2
30% or more all 3 years	0.3	39,885	113,379	35.2

Note: Household income not adjusted for family composition and size.
Source: Statistics Canada, Survey of Labour and Income Dynamics.

Who exceeds the affordability benchmark most often?

As expected, a higher proportion of renters spend above the affordability benchmark (Table 3). In 2004, roughly one-third of renters (paying either market or subsidized rent) lived in households spending above the affordability benchmark, compared with less than one-quarter of owners with mortgages and 1 in 25 owners without mortgages. Longitudinally, well over 40% of renters ever exceeded the benchmark over the 2002 to 2004 period, a much higher proportion than for owners. Those changing tenure during this period were much more likely ever to exceed the benchmark, but less likely to exceed it persistently. While this indicates that changing tenure could be associated with temporary affordability difficulties, the study period is too short to properly understand all the dynamics.

Those living alone and female lone-parent families are the most likely to spend above the benchmark: 42% and 44% respectively in 2004, more than double the proportion in the population as a whole (20%). Those living alone must pay the entire shelter cost themselves and rely on only one income; those supporting children alone face the additional challenge of needing to pay for larger accommodation.

Those whose family type changed over the 2002 to 2004 period are among the most likely ever to spend above the benchmark (39%), compared with the national average (28%). As with tenure-changers, their three-year rate (7%) was very much lower, and below the national average.

Other attributes—years since immigration, visible minority status, and certain geographical locations—also seem to be associated with higher rates of ever or persistently exceeding the affordability benchmark. Recent immigrants, in particular, notably exceeded the benchmark, both cross-sectionally and longitudinally. Their percentages declined as time in Canada increased.

Table 3 Cross-sectional and longitudinal rates of exceeding the affordability benchmark

	Cross-sectional			Longitudinal	
	2002	2003	2004	Ever	Persistently
			%		
Both sexes	**19.4**	**19.6**	**20.0**	**28.1**	**8.6**
Men	18.5	18.6	19.2	26.5	7.6
Women	20.3	20.6	20.8	29.7	9.6
0 to 19 years old	21.5	21.5	21.9	30.7	9.8
20 to 29 years old	21.3	21.6	21.7	33.1	6.5
30 to 49 years old	19.3	19.9	20.3	28.1	8.7
50 to 64 years old	16.9	16.9	17.7	23.5	7.9
65 years old or more	16.8	17.0	16.9	24.4	9.3
Owners, with mortgage	21.5	22.0	23.1	30.5	10.2
Owners, without mortgage	3.5	3.6	4.0	5.9	1.1
Owners, change in mortgage status	...	...	...	24.9	0.8
Renters, market	32.0	38.4	34.3	43.1	19.2
Renters, subsidized	33.9	32.7	33.1	45.1	15.1
Renters, change in subsidy status	...	...	...	56.4	24.3
Changed tenure	...	...	...	42.8	6.5
Ottawa-Gatineau	16.1	20.6	19.4	23.8	7.3
Toronto	23.9	25.2	28.9	36.0	11.9
Vancouver	30.7	30.3	33.1	44.0	16.4
Montréal	20.8	17.2	17.4	25.3	9.0
Calgary	15.3	21.3	18.6	26.8	8.1
Edmonton	16.7	16.4	13.7	24.9	5.5
Victoria	22.2	23.5	21.7	30.5	8.8
Other CMAs	18.0	17.9	17.3	24.8	7.5
Rural	13.4	14.1	14.8	20.5	5.7
Moved between these places	...	...	...	41.4	6.6
Married, without children	11.7	11.8	11.6	16.0	4.2
Married, with children	15.8	16.5	17.5	24.3	7.3
Unattached individual	40.9	41.3	41.6	46.9	22.9
Female lone parent	48.6	45.2	44.2	57.4	27.6
Male lone parent	27.8	24.8	27.4	25.7	12.8
Other family type	17.7	18.2	18.5	23.6	5.3
Changed family type	...	...	...	38.6	7.1
Disabled	23.1	22.6	23.4	30.1	10.5
Not disabled	17.5	17.8	18.1	25.8	6.8
Aboriginal	23.6	25.2	23.4	36.7	10.4
Non-aboriginal	18.6	18.7	19.1	27.0	8.0
Visible minority	28.6	29.8	31.3	43.7	13.2
Not visible minority	17.4	17.4	17.6	25.1	7.4
0 to 9 years since immigration (2002)	36.5	36.9	37.6	54.0	17.3
10 to 19 years	27.7	31.4	33.1	39.5	14.1
20 to 29 years	24.2	23.0	25.1	35.7	10.3
30 to 39 years	19.0	16.4	19.2	24.6	7.8
40 years or more	14.4	16.7	14.5	22.3	6.8
Non-immigrant	18.4	18.5	18.8	26.7	8.1
Some high school	20.6	20.9	20.8	29.4	9.5
High school graduate education	18.7	18.8	19.8	27.6	8.1
Postsecondary without certificate	21.1	21.1	20.8	30.1	9.1
Postsecondary with certificate	16.8	16.9	17.9	25.3	7.3
Bachelor's degree	14.0	15.3	14.4	21.1	5.5
Postgraduate degree	15.4	12.3	13.7	19.3	5.2

Note: Characteristics constant all three years for longitudinal estimates.
Source: Statistics Canada, Survey of Labour and Income Dynamics, 2002 to 2004.

Geographically, Vancouverites were more likely to live in households exceeding the benchmark, 33% in 2004 and 44% ever over the three years. Like those who changed tenure or family type, a relatively high percentage (41%) of those changing place of residence exceeded the affordability benchmark at least once during the three-year period. But the higher STIRs again seemed to be temporary—only 6.6% persistently exceeded the benchmark, well below the average of 8.6%.

Who is more likely to spend 30% or more of household income on shelter costs?

The factors contributing to exceeding the affordability benchmark can be explored using two regression models. The first compares the characteristics of those who *ever* spent 30% or more of their household income on shelter costs with those who never did so. The second compares those who *persistently* spent above the benchmark with those who had at least one year below it.

One in five probability of living in a household spending 30% or more for shelter

The first model predicts that the average[4] Canadian had a probability of about one in five (21%) of ever living in a household spending 30% or more of income on shelter over the 2002 to 2004 period (Table 4). However, the probability (based on the second model) of persistently exceeding the affordability benchmark was much lower (4%).

Table 4 Probability of exceeding the affordability benchmark

	Ever	Persistently	Share of population
	Probability		%
National average	**21.3**	**3.9**	**100.0**
16 to 19 years old	19.7	3.1	6.3
20 to 29 years old	21.7	2.8*	15.0
30 to 49 years old (ref)	20.9	3.9	41.6
50 to 64 years old	21.5	4.6	22.5
65 years old or more	22.6	4.7	14.6
Owners, with mortgage	34.2	10.3	35.7
Owners, without mortgage	5.2*	0.8*	27.4
Owners, change in mortgage status	25.7*	0.8*	8.6
Renters, market (ref)	33.3	11.9	13.4
Renters, subsidized	29.7	5.5*	2.1
Renters, change in subsidy status	38.9	12.1	3.1
Changed tenure	35.4	4.8*	9.7
Ottawa-Gatineau (ref)	18.9	3.2	3.5
Toronto	26.4*	5.4*	15.1
Vancouver	31.6*	7.0*	6.4
Montréal	16.9	3.4	10.9
Calgary	19.9	3.4	2.8
Edmonton	20.7	2.8	3.0
Victoria	28.0*	4.3	0.9
Other CMAs	19.9	3.7	42.8
Rural	18.6	3.4	10.4
Moved between these places	28.0*	3.2	4.2
Couple family (ref)	15.8	3.0	66.1
Men living alone	39.6*	11.0*	4.2
Women living alone	48.2*	16.3*	6.5
Female lone parent	44.9*	13.8*	2.3
Other family type[1]	23.6*	3.5	7.6
Changed family type	34.9*	4.3*	13.3
Disabled	24.1*	4.9*	36.5
Not disabled (ref)	19.8	3.4	63.5
Aboriginal	27.6*	4.8	3.0
Non-aboriginal (ref)	21.1	3.9	97.0
Visible minority	27.1*	4.8	11.7
Not visible minority (ref)	20.6	3.8	88.4
0 to 9 years since immigration (2002)	39.2*	8.3*	4.2
10 to 19 years	26.6*	6.2*	4.1
20 to 29 years	26.8*	4.6	3.0
30 to 39 years	23.9	4.8	3.2
40 years or more	23.0	3.4	3.6
Non-immigrant (ref)	20.0	3.7	81.8
Some high school education	25.0*	4.8*	21.5
High school graduate	23.2*	4.1	14.6
Postsecondary no certificate	22.3*	4.8*	12.0
Postsecondary certificate (ref)	19.5	3.4	26.9
Bachelor's degree	14.7*	2.5*	9.7
Postgraduate degree	12.6*	2.1*	4.9
Education unknown	27.7*	5.5*	10.4

* Significantly different from the coefficient of the reference group (ref) at the 5% level.
1. Includes male lone parents.
Note: Characteristics constant for all three years, unless otherwise indicated.
Source: Statistics Canada, Survey of Labour and Income Dynamics, 2002 to 2004.

Individuals and families living through changes affecting their incomes or shelter costs see corresponding changes in their STIRS and, hence, their probabilities of ever or always spending 30% or more of their incomes on housing. Movers, those who change tenure, and those whose family situation changes (perhaps through divorce, marriage or other family changes) are particular examples of those whose circumstances have changed.

Age is not a strong factor in determining the probability of ever spending 30% or more on shelter costs. None of the age groups in the first model had probabilities significantly different from the reference category (age 30-49) of ever having a STIR of 30% or more. For the second model, only the 20-29 age group had a significantly lower probability than those aged 30 to 49 of persistently exceeding the affordability benchmark. However, even though this difference was significant, it was not substantially lower. Perhaps there are a variety of reasons why the 20- to 29-year age group was significantly different from the reference category. This is a group in transition. Some still live at home with their parents and therefore their shelter costs and income reflect their family's situation rather than their own. Those who have moved out may be saving to buy a house and live in inexpensive accommodation to do so. If they have not yet started a family, they will not need the larger, more expensive accommodation required by families. Note that, while many in this age group share accommodation with roommates, these households are excluded from this study.

Subsidized renters less likely than market renters to persistently spend 30% or more for shelter

Renters have the highest median STIRs (Table 5). They are also the most likely to ever spend above the affordability benchmark and, with the exception of subsidized renters, to persistently spend above this benchmark. The first model shows that, for market renters, the probability of ever spending 30% or more on shelter is one in three. The probability drops to one in eight for persistently spending above this benchmark and is even lower for subsidized renters at one in eighteen. This is the case even though the median income for subsidized renters is only half that of market renters. Thus, the second model provides additional evidence that rent subsidies have an effect.

While it may seem counterintuitive that subsidized renters have higher STIRs than market renters, they would be much higher without rent subsidies. If subsidized renters had paid the median market rent of $8,300 rather than their subsidized rents, their median STIR would have been 42% instead of 26%. The median shelter costs of renters subsidized for all three years were 40% below those of market renters. This helps make their shelter costs much more affordable when compared with their very low median incomes.

Owners without mortgages had the lowest STIRs and only a 5% probability of ever spending 30% or more of household income on shelter, far below the 26% of the next lowest tenure group, owners changing mortgage status.

While the 36% of Canadians who are owners with mortgages have about the same probability as market renters of ever exceeding the affordability benchmark, they do so under totally different circumstances. Owners with mortgages had the highest median incomes ($79,300) and also the highest median shelter costs ($15,300). Having the highest incomes, they are better able to afford spending a higher percentage of income on shelter. And these high shelter payments include mortgage principal that builds equity.[5] In contrast, market renters had median incomes only half those of owners with mortgages, but median shelter costs that were more than half.

While the nearly 10% of households that changed tenure during the three years had a relatively high probability of ever spending 30% or more of income on shelter, they were less likely to do so on a persistent basis. It may be that their tenure change is associated with short-term high STIRs but that, in the longer term (in this study, three years), their situation improves. The change in tenure may be associated with such varied circumstances as a move that temporarily increases shelter costs faster than income or a move to adjust to family breakup and a drop in income.

Table 5 Median shelter cost-to-income ratio, shelter cost and income, 2002 to 2004

	STIR	Shelter cost	Household income[1]
Tenure	%	$	$
Owners, mortgage all 3 years	19.6	15,282	79,306
Owners, no mortgage all 3 years	7.8	4,817	62,413
Owners, change in mortgage status	13.1	9,456	76,080
Renters, market, all 3 years (ref)	22.5	8,301	39,572
Renters, subsidized, all 3 years	26.4	5,004	19,547
Renters, change in rent subsidy status	27.0	7,146	27,445
Changed tenure	20.1	9,975	54,984
Geography			
Ottawa-Gatineau	15.7	11,025	79,436
Toronto	19.0	12,976	76,758
Vancouver	21.0	12,047	65,089
Montréal	15.9	8,120	57,405
Calgary	17.5	11,742	74,805
Edmonton	16.1	10,189	72,551
Victoria	16.3	8,260	69,814
Other CMAs	15.8	8,369	60,863
Rural	13.5	5,842	51,286
Moved between places	19.7	9,680	56,468
Family type			
Female lone parent	26.8	8,180	30,504
Women living alone	25.6	5,817	22,870
Men living alone	22.3	6,187	30,813
Changed family type	19.8	9,041	55,176
Couple family	14.9	10,300	74,311
Other family type[2]	14.7	7,312	55,594

1. Not adjusted for family size.
2. Includes male lone parents.

Source: Statistics Canada, Survey of Labour and Income Dynamics.

Toronto and Vancouver residents stand out

"Location, location, location"—so often heard in real estate, can also be used about shelter costs. Housing costs are highest in Canada's largest metropolitan areas. Are these higher costs reflected in higher prob-

abilities of exceeding the housing affordability benchmark? The model suggests that people living in Vancouver and Toronto, two of the largest and the two most expensive cities in Canada, had significantly higher probabilities of ever or persistently exceeding the affordability benchmark compared with those in Ottawa-Gatineau, the reference category.

Torontonians shoulder the highest median shelter cost of all metropolitan areas, but do so on one of the highest median incomes, which mitigates their STIRs. This leaves them with the second highest STIR. At 21%, Vancouverites have the highest median STIR.

Residents of Montreal, Calgary, Edmonton, other CMAs and rural areas have about the same probability of spending above the benchmark as Ottawa-Gatineau residents. Residents of Victoria, accounting for the smallest population share of all the centres in this study, had a relatively high probability (28%) of ever spending 30% or more on shelter. However, in terms of persistently exceeding the affordability benchmark, they were not significantly different from Ottawa-Gatineau.

Finally, as noted, people living in households whose circumstances changed tended to have higher STIRs. Those who moved between metropolitan areas had a significantly higher probability (28%) of ever exceeding the affordability benchmark than those living in Ottawa-Gatineau all three years. But in terms of persistently exceeding the benchmark, movers were not significantly different—perhaps it just takes time to find a good job and affordable shelter in a new city.

Family-related transitions important in housing affordability

Family living arrangements are not static. Various events change family composition—marriage, divorce, separation, death, or the departure or return of grown-up children. Between 2002 and 2004, 13% of the population changed family type. In order to compare families that changed with those that did not change, a separate category was created.[6]

Female lone-parent families had the highest STIRs (27%), followed by women and men living alone. All three of these groups had median incomes less than half that of couple families. Those living alone had median shelter costs that were less than two-thirds those of couples, but female lone-parents paid almost 80% of what couples paid for shelter, which is why their STIRs were the highest.

Couple families, the most common type, account for 66% of all people in Canada. For them, the probability of ever spending more than the affordability benchmark is 16% and the probability of doing so persistently is just 3%, both well below the national average. Couple families benefit from having the highest median income, which offsets their high shelter costs, giving them almost the lowest median STIR.

In contrast, those living in the remaining family types were significantly more likely to ever spend 30% or more on shelter—especially female lone-parents and women living alone. These two family types also had the highest probabilities of persistently spending above the benchmark. Being smaller, these families are not able to benefit from more than one income (whether from government transfers or a salary). Perhaps even more importantly, employed women's average earnings are still substantially lower than men's, even for those employed on a full-time basis. In 2003, women working full time, full year earned $36,500, about 71% of their male counterparts (Statistics Canada 2005).

Those whose family type changed deserve special mention. Like those who moved or changed tenure, their probability of ever exceeding the benchmark was elevated—much higher than for couples, though not as high as for women living alone or female lone-parents. Their probability of always exceeding the benchmark was also significantly higher than for couples, though not by much. Families who add or lose members may be able to make adjustments that reduce their STIRs after a year or two, whereas women living alone or bringing up children by themselves do not have such flexibility.

Recent immigrants and visible minorities have high probabilities of ever spending more than the housing affordability benchmark

More than 70% of immigrants arriving since 1982 belong to a visible minority group. For this reason, the findings for recent immigrants and visible minorities are discussed together.[7]

The high proportion of recent immigrants who are also visible minorities is not the only pertinent similarity between these two groups. Both also tend to live in the largest urban centres, where shelter costs are highest. For example, in 2001, 86% of immigrant households versus 58% of non-immigrant households lived in census metropolitan areas and both groups are

more likely than Canadians in general to live in Toronto and Vancouver. In 2001 the proportion of visible minorities living in these two cities was four times larger than for those who were not part of a visible minority. Just over 40% of all visible minorities, compared with 11% of those who were not visible minorities, lived in Toronto. For Vancouver, the figures were 18% and 5% (CMHC forthcoming).

Another similarity between visible minorities and recent immigrants is family size. Visible minority families in 2002 averaged 3.8 people compared with 2.9 for families that were not visible minorities. Similarly, recent immigrant families averaged 3.7 for those in Canada less than 10 years and 3.9 for those here for 10 to 19 years. For the Canadian-born, the average family size was 3.0. Larger families tend to require larger accommodations, pushing up shelter costs. However, larger families can also generate more income through the efforts of additional earners or from transfer payments. In fact, while median household incomes are similar for those who are visible minorities and those who are not, and for immigrants (except the very recent ones) and the Canadian-born, shelter costs are much higher for visible minorities and recent immigrants (Table 6).

Given their tendency to live in the largest, most expensive cities and their larger familes, it is not surprising that both recent immigrants and visible minorities had significantly higher probabilities of spending 30% or more of income on shelter at least once during the three years. For immigrants (including those who are and those who are not visible minorities), this higher probability declines with the length of time they have lived in Canada—those in Canada 40 years or more had probabilities not significantly different from the Canadian-born. Immigrants in Canada for less than 10 years had the highest probability of ever exceeding the affordability benchmark (39%). This dropped to 23% for those in Canada for 40 or more years.

Results are similar for immigrants persistently exceeding the affordability benchmark. Recent immigrants were significantly more likely than the Canadian-born to exceed the benchmark and this probability dropped as the years in Canada increased, until no significant difference from the Canadian-born was seen. For visible minorities, however, no significant difference from those who were not visible minorities was seen in the probability of persistently exceeding the affordability benchmark.

Table 6 Median shelter cost-to-income ratio, shelter cost and income by selected characteristics, 2002

	STIR	Shelter cost	Household income[1]
Visible minority status	%	$	$
Yes	21.1	12,111	61,949
No	15.9	8,728	62,898
Years since immigration			
0 to 9	25.6	12,756	49,300
10 to 19	20.8	12,800	64,522
20 to 29	17.7	11,537	73,813
30 to 39	14.4	7,975	73,143
40 and more	14.1	6,316	49,245
Canadian born	16.0	8,852	63,435
Aboriginal status			
Yes	19.0	8,286	50,365
No	16.4	9,088	63,206
Disability status			
Yes	17.1	7,425	51,274
No	16.2	10,116	69,999
Education			
Some high school	16.9	6,801	45,691
High school diploma	16.6	8,807	59,200
Postsecondary without certificate	17.2	9,706	65,597
Postsecondary with certificate	16.3	9,455	65,431
Bachelor's degree	14.7	11,231	85,584
Postgraduate degree	13.5	12,115	97,039
Unknown	18.3	10,053	61,497

1. Not adjusted for family size.
Source: Statistics Canada, Survey of Labour and Income Dynamics.

Aboriginal households more likely to spend more than benchmark, but not persistently

Unlike immigrants, Aboriginals living off reserve do not congregate in Toronto and Vancouver.[8] Only 11% of Aboriginal Canadians lived in these two CMAs compared with 22% of non-Aboriginals. This difference likely accounts for their lower median shelter costs, $8,300 versus $9,100. But their lower shelter costs are associated with even lower incomes, resulting in STIRs that are higher than for non-Aboriginals.

Aboriginals living off reserve were significantly more likely than non-Aboriginals to ever exceed the affordability benchmark, but no more likely to do so persistently. Aboriginals had a higher rate of moving over the three-year period—17% versus 12% for non-

Aboriginals—and, as already seen, households that moved were more likely to exceed the affordability benchmark.

As noted, Canadians moving between metropolitan areas had a significantly higher probability of ever exceeding the affordability benchmark, but not of persistently exceeding it. Perhaps it is the higher mobility of Aboriginal Canadians that causes them to have a similar pattern to movers, as it may take time to find a good job and affordable shelter in a new city.

On the other hand, other characteristics of Aboriginal housing include higher rates of crowding or unsuitable housing (as measured by the National Occupancy Standard) and higher rates of living in a unit in need of major repairs (Chart B).[9] Aboriginals may be living in inadequate or unsuitable accommodation to lower their rents.

Disabled more likely to exceed affordability benchmark

Those who self-identified as disabled at least once during the three years had significantly higher probabilities than the non-disabled of ever or persistently exceeding the affordability benchmark. The disabled were also more likely to live in families where the major source of income came from government transfers (including old age security) rather than wages and salaries (Chart C).

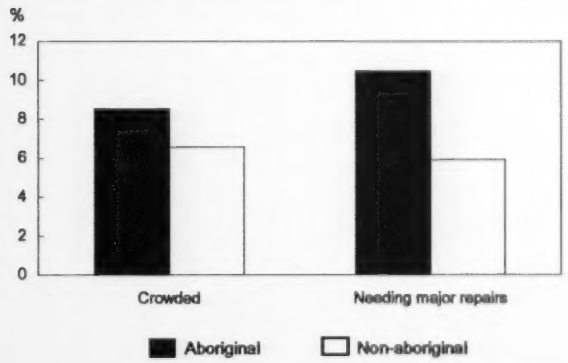
Higher education: higher earning power and lower STIRs

As would be expected, compared with those who received some kind of postsecondary certification other than a bachelor's degree, those with less education have significantly higher probabilities of ever or persistently exceeding the affordability benchmark. Similarly, those with more education (bachelor's or postgraduate degrees) have significantly lower probabilities of doing so (Table 4).

Conclusion

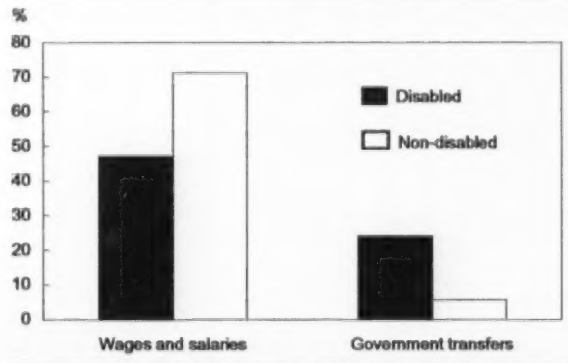
The traditional cross-sectional analysis of housing affordability using shelter cost-to-income ratios (STIRs) has been extended by adding longitudinal data. While a stable 20% of Canadians live in households spending above the affordability benchmark for shelter in any single year, when measured over a three-year period, 28% reported living in a household ever exceeding the benchmark—12% for one year, 7% for two years and 9% for all three years. Hence, roughly

Chart B Aboriginal Canadians more likely to live in housing that is crowded or in need of major repairs



Source: Statistics Canada, Survey of Labour and Income Dynamics, 2002 to 2004.

Chart C The disabled more likely to live in households where major source of income is government transfers



Source: Statistics Canada, Survey of Labour and Income Dynamics, 2002 to 2004.

one-third of those exceeding the benchmark at least once during the study period can be considered to be persistently doing so, while the other two-thirds are moving in and out of this state. However, three years is rather a short period. Some of the seemingly transient group may be ending or starting a prolonged period of exceeding the benchmark.

To identify the factors associated with spending above the affordability benchmark, two logistic regression models examined the correlates of living in a household either persistently (all three years) or ever (at least one year), having a STIR of 30% or more. Both models corroborated the cross-sectional and longitudinal analyses. The attributes associated with the highest probabilities of living in a household spending above the affordability benchmark were: living alone, being a female lone parent, renting, being an immigrant, or living in Vancouver or Toronto.

In addition, those living in households experiencing some kind of transition between 2002 and 2004 had a higher probability of exceeding the benchmark at least once during the period. Such transitions included renters with a change in rent-subsidy status, those who changed from owner to renter or vice versa, those who changed family type (for example, marrying or divorcing), and those who moved between cities. Notably, those experiencing these transitions did not exceed the benchmark persistently.

And renters in subsidized housing for all three years of the study period, while experiencing probabilities similar to market renters for exceeding the benchmark in at least one year, had lower probabilities of persistently doing so—this despite having median incomes approximately half that of market renters.

Perspectives

Notes

1. Core housing need refers to those whose housing is overcrowded, in need of major repairs, or costs 30% or more of household income and who could not afford to rent adequate, suitable and affordable housing in their local housing market for less than 30% of total before-tax household income.
2. Utility costs are imputed onto the SLID database for both renters and owners based on census data.
3. Median STIRs in this report include households with STIRs equal to or greater than 100%. Overall, roughly 3% of households have such STIRs. However, since a given income group (or other sub-population) may have a higher or lower percentage, the effects of this inclusion may vary. Normally, CMHC excludes these households from its affordability studies since it is difficult to interpret their financial circumstances. Possible reasons for STIRs greater than 100% include: different reference periods for shelter and income; the collection of shelter costs that seem too high (perhaps because, if a business is operated from home, it is difficult to separate shelter costs from business expenses); fluctuations in self-employment income; and the household having revenue other than standard income to put toward shelter.
4. Setting all model variables to their mean values mimics an 'average' Canadian in the sample.
5. The principal portion of a mortgage payment helps build equity and therefore household wealth. Thus, owners with mortgages who spend 30% or more of their income on shelter (i.e. they do not meet the affordability benchmark) are, unlike renters, contributing to their wealth. However, the breakdown of mortgage payments into principal and interest is often not known by respondents and is not asked in SLID.
6. 'Family type' categories used in this report are: couple families, female lone-parents, women living alone, men living alone, other family type and changed family type. Categories are assigned to individuals based on all members of the family, even though children under 16 years of age are not included in the models. Also, households with more than one economic family are not part of this study. Couple families include those with and without children (under 18). This category includes married, common-law and same-sex relationships. Female lone-parent families include at least one child and the mother must be younger than 65. The category 'other family type' includes male lone-parent families and couples or lone-parent families with other relatives living with them. Those who changed family type during the three-year period could have married, separated or divorced, had a death in the family, had children turn 18, or had relatives (including children 18 or over) leave home or take up residence with them.
7. Immigrants are those born outside Canada and who have been given the right to live in Canada permanently by immigration authorities. Visible minority status is defined based on three questions: mother tongue, ethnic or cultural group of ancestry, and country of birth. Recent immigrants are defined based on the 'years since immigration' variable. For this report, those who immigrated in the 20 years before 2002 are recent immigrants. Those who immigrated in the 9 years before 2002 are the most recent immigrants.
8. Those in the Aboriginal category indicated at least one of the following: that they were a Treaty Indian or a Registered Indian as defined by the Indian Act of

Canada; or that their ancestors were Cree, Micmac, Métis or Inuit. This method of defining Aboriginal is different from the census definition. In the census, an identity approach is taken and those in the Aboriginal category answered yes to at least one of the following: that they were an Aboriginal person; that they were a member of an Indian Band or First Nation; or that they were a Treaty Indian or a Registered Indian as defined by the Indian Act of Canada. The SLID definition gives a higher estimate for off-reserve Aboriginals: 629,000 (aged 16 and over) in reference year 2001 compared with 471,000 (aged 15 and over) on the 2001 Census. SLID's estimate includes those with Aboriginal ancestry.

9. Overcrowded dwellings do not have enough bedrooms for the size and make-up of resident households, according to National Occupancy Standard (NOS) requirements. Enough bedrooms based on NOS requirements means one bedroom for each cohabiting adult couple; unattached household members 18 years of age and over; same-sex pairs of children under age 18; and additional boys or girls in the family, unless there are two opposite sex siblings under 5 years of age, in which case they are expected to share a bedroom. A household of one individual can occupy a bachelor unit (i.e. a unit with no bedroom) (CMHC 1991).

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